AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

Claims 1-12 (Canceled)

Claim 13 (Currently amended): A transmitting apparatus using polar modulation, the apparatus comprising:

a polar signal producer, producing signals corresponding to an amplitude and a phase of a transmitting modulated signal from an input signal;

an amplitude signal producer, producing an amplitude signal from a signal corresponding to the amplitude;

a phase-modulated signal producer, having an input and producing a phase-modulated signal from a signal corresponding to the phase and provided at the input;

an amplitude-modulation amplifier, having another input and amplitude-modulating the phase-modulated signal by the amplitude signal, which is provided at said another input, and the phase-modulated signal to produce a transmitting modulated signal;

an amplitude/phase detector, detecting ~~an amplitude signal and a phase~~the signal corresponding to the phase that is provided at said input and the amplitude signal

that is provided at said another input~~from an input signal to the amplitude modulation amplifier and an input signal to the phase modulated signal producer~~;

a delay difference computer, computing a delay difference between an amplitude signal and a phase signal based on the signal corresponding to the amplitude and the signal corresponding to the phase, which are produced by the polar signal producer, and the signals~~amplitude signal and the phase signal, which are~~ detected by the amplitude/phase detector; and

a timing adjustor, adjusting timings of the amplitude signal and the phase signal based on the delay difference computed by the ~~de lay~~delay difference computer.

Claim 14 (Previously presented): The transmitting apparatus using polar modulation as claimed in claim 13, wherein the delay difference computer computes a correlation function between the signal corresponding to the amplitude produced by the polar signal producer and the amplitude signal detected by the amplitude/phase detector and a correlation function between the signal corresponding to the phase produced by the polar signal producer and the phase signal detected by the amplitude/phase detector, and computes the quantity of

delay of the amplitude signal and the quantity of delay of the phase signal from maximum values of the respective correlation functions related to these amplitude and phase and computes a delay difference from a difference between the quantity of delay of the amplitude signal and the quantity of delay of the phase signal.

Claim 15 (Currently amended): A~~The~~ transmitting apparatus using polar modulation ~~as claimed in claim 13~~, the apparatus comprising:

a polar signal producer, producing signals corresponding to an amplitude and a phase of a transmitting modulated signal from an input signal;

an amplitude signal producer, producing an amplitude signal from a signal corresponding to the amplitude;

a phase-modulated signal producer, producing a phase-modulated signal from a signal corresponding to the phase;

an amplitude-modulation amplifier, amplitude-modulating the phase-modulated signal by the amplitude signal and the phase-modulated signal to produce a transmitting modulated signal;

an amplitude/phase detector, detecting an amplitude signal and a phase signal from an input signal to the amplitude-modulation amplifier and an input signal to the

phase-modulated signal producer, wherein the amplitude/phase detector is constructed of a digital circuit and has a selector selecting either the amplitude signal or the phase signal and an analog-digital converter converting the selected amplitude signal or phase signal provided at an input section of the amplitude signal and the phase signal;

a delay difference computer, computing a delay difference between an amplitude signal and a phase signal based on the signal corresponding to the amplitude and the signal corresponding to the phase, which are produced by the polar signal producer, and the amplitude signal and the phase signal, which are detected by the amplitude/phase detector; and

a timing adjustor, adjusting timings of the amplitude signal and the phase signal based on the delay difference computed by the delay difference computer.

Claim 16 (Previously presented): The transmitting apparatus using polar modulation as claimed in claim 13, wherein the timing adjustor has a delay unit delaying at least one of the amplitude signal and the phase signal and a delay controller controlling the quantity of delay of the delay unit.

Claim 17 (Previously presented): The transmitting apparatus using polar modulation as claimed in claim 13, wherein the timing adjustor has a rough adjustor roughly adjusting the quantity of delay of the amplitude signal and the quantity of delay of the phase signal and a fine adjustor finely adjusting the quantity of delay.

Claim 18 (Previously presented): The transmitting apparatus using polar modulation as claimed in claim 13, wherein the timing adjustor is constructed of a digital circuit and varies a clock frequency of this digital circuit to adjust the quantity of delay of the amplitude signal and the quantity of delay of the phase signal.

Claim 19 (Previously presented): The transmitting apparatus using polar modulation as claimed in claim 16, wherein the timing adjustor has a plurality of inverters connected in cascade as the delay unit and a selector for switching outputs of the inverters.

Claim 20 (Previously presented): The transmitting apparatus using polar modulation as claimed in claim 16, wherein the timing adjustor has a digital filter capable

of varying a delay time according to a control signal as the delay unit.

Claim 21 (Previously presented): The transmitting apparatus using polar modulation as claimed in claim 13, wherein the amplitude modulation amplifier is configured to have a power amplifier.

Claim 22 (Previously presented): The transmitting apparatus using polar modulation as claimed in claim 13, wherein the amplitude modulation amplifier is configured to have a variable gain amplifier.

Claim 23 (Previously presented): The transmitting apparatus using polar modulation as claimed in claim 13, wherein the amplitude modulation amplifier is configured to have a mixer circuit.

Claim 24 (Currently amended): A method of synchronizing an amplitude signal and a phase signal in a transmitting apparatus using polar modulation, the method comprising the steps of:

producing signals corresponding to an amplitude and a phase of a transmitting modulated signal from an input signal;

producing an amplitude signal from a signal corresponding to the amplitude;

producing a phase-modulated signal from a signal corresponding to the phase and provided at an input;

multiplying the amplitude signal, which is provided at another input, by the phase-modulated signal to amplitude modulate the phase-modulated signal to produce a transmitting modulated signal;

detecting ~~an amplitude signal and a phase~~the signal corresponding to the phase that is provided at said input and the amplitude signal that is provided at said another input~~from an amplitude signal before the amplitude signal being multiplied by the phase-modulated signal and a signal corresponding to a phase before the phase-modulated signal being produced~~;

computing a delay difference between an amplitude signal and a phase signal based on the signal corresponding to the amplitude and the signal corresponding to the phase, which are produced from the input signal, and the amplitude signal and the phase signal, which are detected; and

adjusting timings of the amplitude signal and the phase signal based on the computed delay difference to synchronize the amplitude signal and the phase signal.